

5 CLAIMS

1. A power supply circuit arrangement switchable between modes, comprising:

a main circuit and an auxiliary circuit, each coupled to derive their power supply voltage/current from a common power supply;

10 a control circuit having detector means for detecting the level of a signal and providing a control action responsive to the detected level of the signal, and

variable-impedance means coupled between the common power supply and the auxiliary circuit and responsive to the control circuit for switching between a first and a second impedance states, producing respective first and second power supply
15 voltages/currents being received by the auxiliary circuit from the power supply;

the first and second voltages/currents corresponding to operating and non-zero reduced power modes respectively.

2. The arrangement of claim 1 wherein for the first impedance state the
20 corresponding power supply voltage supplied to the auxiliary circuit permits normal operation and, for the second impedance state the corresponding power supply voltage supplied to the auxiliary circuit is inadequate for its normal operation, whereas the power supply voltages/currents supplied to the main circuit is adequate for its normal operation in both the first and second impedance states.

25 3. An arrangement of claim 1, wherein the variable-impedance means comprises a switch and an impedance.

4. The arrangement of claim 3 wherein the switch and impedance are
30 connected in parallel with each other with the switch being operable in response to the control circuit.

5. The arrangement of claim 4 wherein second impedance state is produced by opening the switch and said first impedance state is produced by closing the switch.

35 6. An arrangement as defined in claim 5, wherein the switch comprises a relay having switch contacts connected in parallel with said impedance.

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5 7. An arrangement as defined in claim 3, wherein the impedance comprises a resistance.

8. An arrangement as defined in claim 3, wherein the impedance comprises a combination of resistive and reactive components.

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9. A power supply circuit arrangement, switchable between operational and non-zero reduced power modes comprising:

a control circuit having detector means for detecting the level of a signal and providing a control action responsive to the detected level of the signal;

15 variable-impedance means coupled in series with a power supply circuit and a circuit powered from the power supply circuit, and switchable between higher and lower impedance states by the control action;

in the lower impedance state, a power supply voltage/current provided to the circuit is a first operating voltage/current of the circuit, and in the higher impedance
20 state, the power supply voltage/current provided to the circuit is less than the first operating voltage.

10. The arrangement of claim 9, wherein the variable-impedance comprises a switch connected in parallel with an impedance, and the control circuit action operates
25 the switch to select said first and second impedance states, by opening and closing the switch contacts.

11. An arrangement as defined in claim 10, wherein the switch comprises the contacts of a relay.

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12. A power amplifier switchable between operational and non-zero reduced power modes, powered by a power supply circuit arrangement, and having audio input means, the power supply circuit arrangement comprising:

power input means for receiving power from a power supply,

35 a speaker drive circuit coupled for receiving power from the power supply, the drive circuit being operational in a non-zero reduced power mode at a power supply voltage/current that is inadequate for operation of the speaker drive circuit in an operational mode;

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5 a control circuit having detector means for detecting the level of an audio signal and providing a control action responsive to the level of the audio signal;

variable-impedance switching means coupled between the power input means and the drive circuit and switchable by the control action to switch between first and second impedance states;

10 the first impedance state providing a power supply voltage/current to the drive circuit which is sufficient for normal operation of the drive circuit, the second impedance state providing a power supply voltage/current to the drive circuit which is inadequate for normal operation of the drive circuit.

15 13. A loudspeaker system comprising a power supply circuit arrangement and audio input means, the power supply circuit arrangement being switchable between operational and non-zero reduced power modes and comprising:

a speaker drive circuit coupled to receive a power supply voltage/current;

a control circuit having detector means for detecting the level of an audio signal

20 and providing a control action dependence upon the detected level of the audio signal;

variable-impedance switching means coupled between a power supply circuit and the speaker drive circuit and responsive to the control action to switch between first and second impedance states;

the control action selecting between a first impedance state and a second
25 impedance state and switching the speaker drive circuit between an operational mode and a non-zero reduced power mode respectively.

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